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ABSTRACT

This brief NEA newsletter addresses itself to the importance of good nutrition habits to the central nervous system which, in turn, exerts an effect on learning. Features include: (1) outlines for nutrition education in units for grades K-3, grades 4-6, grades 7-9, and grades 10-12; (2) a school breakfast project for a class of emotionally handicapped children, featuring unusual breakfast recipes; and (3) several articles by experts on the value to society of good nutrition. (CJ)

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NUTRITION IN TODAY'S EDUCATION — AS A SCHOOL NURSE SEES IT

By Regina M. Eddy, R.N., B.Sc.,
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The influence of nutrition on the ability to learn has become a subject stimulating to many educators today. As evidenced in on-going research on nutrition, it can influence both structure and functioning in the brain and central nervous system. The most crucial time for proper nutrition consumption is three months before delivery of a child and six months after birth, and continuing on a reduced scale until he is three years of age. Although this relates to a pre-school child, the maintenance of nutritional well-being is a needed role for schools to play in giving each child the opportunity to achieve his potential.

Malnutrition reaches out to all socio-economic levels of society and relates closely to the learning process. Under-nutrition and malnutrition can lessen energy, reduce concentration, attention span, cause fatigue, and reduce a child's ability to cope with both school and home environs.

The school's program must incorporate nutrition education in the curriculum. School nurses are key people to be used in planning and implementing these programs. Objectives in this program should be to:

- Survey children's attitudes toward food
- Establish proper food habits
- Align food habits with table manners and meal procedures and
- Effectively design a program of nutrition information for Kindergarten through Grade 12.

The overall goal should be to provide well balanced meals as they apply to ethnic cultural patterns and food habits that promote and maintain the well-being of school children.

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IMPACT OF NUTRITION IN TODAY'S SOCIETY

According to Dr. Yank D. Cable, Director of Nutrition for Pillsbury Company, "Nutrition may become the word of the decade, but the meaning and the words are unclear." I will have to concur unless nutrition is upstaged by ecology — and this might very well happen. In considering nutrition, let's think for a moment of the number of people we personally know who have a vested interest in such groups as Overweight Anonymous, Weight Watchers, TOPS; familiar to all of us. These, plus the protein dieters, calorie counters, grapefruit eaters and "Mayo" dieters imply we are a nation of over-indulgence. To quote Dr. Cable, obviously there really is a serious "communication gap between the consumer and science" in the field of nutrition and health. With this in mind, it is interesting to review nutrition and its influence on today's education.

In light of many frames of reference — cultural, ethnic, socio-economic, geographic, versus the recommendation of nutritional needs from nutrition experts, the influence of environment on nutrition provides a confusion of facts for the public. Such confusion leads to a complexity of problems which adds to the difficulty of effecting solutions in improving nutritional health.

The ever-evolving controversy via news media, T.V., radio, magazine articles, etc. on nutritional needs versus nutritional habits provides a quality of nutritional imprint on today's children which might well determine the nutritional health of a coming generation.

We have had congressional hearings, legislative action and "stepped up" activities of Federal agencies — all focused on problems of hunger and malnutrition. In the State of California, as in most states, many programs are in progress to provide adequate nutrition for school children for a minimal amount of money or through a free program. Some of those familiar to school people are:

- School Lunch Program — Regular *Type A* school lunch as a part of the National School Lunch Program, subsidized in commodities or cash.
- Reduced Price Lunch Program — A lunch sold for not more than 20c, but less than the full price of the regular program.
- Breakfast Program — Has been experimented with in some school areas — usually around 8:30 a.m. and geared to food students enjoy: Secondary level — hamburger, orange juice, etc. — Elementary level — scrambled eggs, milk, toast.

These programs have been quite successful in some areas of California and are currently gathering momentum in motivation toward better eating habits for boys and girls.

Apropos of this, Dr. Cable has pointed out that so-called "junk meals" to the "establishment" are nutritionally sound to young adults. He indicated a mid-morning breakfast of a big hamburger, french fries and milk shake are regarded as throw-away meals by many people. In reality, the meal provides one-third of the caloric need, two-thirds of the protein, and more than one-third of the minerals, thiamin and vitamin C needed daily by a teen-ager.

- Milk Program — Is given for 5c or is free (to children from low socio-economic areas) in Kindergarten or Grade 1.
- Free Lunch Program — A lunch for which neither the child nor the parent pays. *All AFDC recipients, foster children on AFDC, Food Stamps, Medicare, and general relief.

*AFDC — Aid to Federally Dependent Children

- Food Stamps — Voluntary Program. For low-income families. Permits families to buy food stamps at a discount. (A family of five with a $200 monthly income would pay $72 and receive $102 worth of coupons or stamps.)

All of these are basic programs, well known to all of us. Each is carried out according to guidelines set by various school districts.

PROGRAMS OF NATIONAL INTEREST

Programs in effect which hopefully will re-inforce the nutritional knowledge of young people of our nation are:

- Maternal and Child Health Programs supported by the Federal Government, such as, Project Head Start and Parent and Child Centers, with emphasis on parent involvement under the guidance of a professional multidisciplinary health team.
- Comprehensive Health and Medical Care Projects for Mothers and Children, with preventative and treatment aspects of nutrition care.
- Clinical nutrition programs for mentally retarded children.
- Educational television programs relative to nutrition.
- Special programs for pregnant teen-age girls, emphasizing food selection and preparation, consumer education, adequate and nourishing food during prenatal period and baby food selection.
- Auxiliary Personnel — Aides and volunteers trained by Nutritionist and with re-inforced knowledge from School Nurses have exhibited great skill and have been effective in motivating low-income parents to change food habits and to provide help for them in planning economic meals.

CONTROVERSIAL COMMENTS BY NOTABLE PEOPLE ON TODAY'S NUTRITIONAL PATTERNS

Professor Jean Mayer — *Family Health*, July 1970. — "Children should be given a substantial snack at mid-morning because many children are not hungry in the morning and come to school without breakfast." A mid-morning snack is recommended; not necessarily milk. Sometimes too much milk results in children not getting enough other foods, e.g. Vitamin C and iron and other necessary proteins.

If possible, children should have something special for breakfast — *what they need most* is: "to see mother going to some trouble to prepare breakfast and then sitting quietly and lovingly enjoying it together."

Researchers from Medical College of Wisconsin at Milwaukee — "Obesity is at the stage of epidemic" — the problem of obesity is more critical to national health than undernutrition — e.g., TOPS, Weight Watchers, Overweight Anonymous, and others.

Drs. Morton Pearce and Seymour Deyton, UCLA, at the American Heart Association Symposium, — "Incidence of people on diets high in polyunsaturated foods to avoid coronary problems are evidencing developing cancer. Emphasis therefore in cardiovascular patients should be a cutting down on foods high in cholesterol rather than substituting a diet high in polyunsaturates."

Thoughtful observation of these notable quotes, makes it imperative for School Nurse educators to plan for and implement positive educational programs in collaboration with teachers at both the elementary and secondary level. In these days of national financial crisis for the homemaker, food buying must be interwoven into all lesson plans. It does no good to teach what to eat nutritionally if we do not consider ethnic and cultural patterns along with the socio-economic levels from which the students evolve.

Some suggested programs to provide nutritional knowledge to teachers for educational input are:

- *Big Idea Program* — Dairy Council of California — Set of 19 complete lesson plans, Grade K-3 and 10 lesson plans Grade 4-6 — now available and presented in workshop form by Dairy Council
- *Breakfast Around the World* — Dairy Council — published cooperatively with a school nurse, Mary Ford, Chicago, Illinois.
- *Breakfast and the Bright Life* — Cereal Institute — Jr. High and Sr. level — has a 12 page teacher's guide — a 10" record and filmstrip combination.

- *Breakfast Survey* — can be done at any grade level. It is a known fact that an adequate breakfast can change the attitude and attention of a student to a point of better academic achievement.
- *Programs Planned Around the "Seven Ages of Nutrition"* — could become innovative, continuing programs beginning with parents or teen-age pregnant girls — or be used in a variety of programs geared to Growth and Development.

Age of Infancy — Nutritional needs - formula - breast feeding - hours of feeding (Senior High — Homemaking)

Age of Childhood — Nursery School — Kindergarten through Grade 6 — established eating habits — snack needs — ethnic and cultural patterns.

Age of Adolescence — Junior High Level — Eating habits evaluated — discussed and their relativity to growth spurts, hormonal changes and emotional stress including obesity. (Mini-Munchers Program as seen in DSN's *The School Nurse* — Connecticut). Since "soul food" is one "in thing" for our young society today, a research or evaluation program on it and other new trends could be a motivating lesson for students.

Age of Athletes — Junior and Senior High Level — Too much emphasis on protein diet — excessive vitamin supplementaries are not nutritionally sound. Light amount of food before games is recommended. Research this and then provide a practical program through cooperative efforts of the coach.

Age of Pregnancy — Health Education Classes — Home Economics, Special Classes for Pregnant Girls. Senior High and Adult Groups — the effects of poor nutrition on the mother; on the development of the baby; plus the impact of nutrition on mental retardation.

Middle Age — Parent Groups — PTA — Overweight Anonymous, etc.

Old Age — Needs — Fads and Fallacies — Experimental Programs in geriatrics:

- Meals on Wheels
- Reasonable priced meals in school cafeteria — when children are not there.
- Personal assistance in shopping and preparation through help of trained volunteers.

It is this writer's opinion, while school nursing is primarily pointed toward services to children, we must provide cooperative service, with teachers, to enhance the learning potential of all school children. It is sincerely hoped these few "beads of knowledge" will be helpful to professional coworkers in the field of School Nursing.

As an addendum, excerpted is a concise Health Education Unit in Nutrition; should be helpful in promoting good nutrition to staff and students.

I would like to close with

A RECIPE FOR PRESERVING CHILDREN

1 grass grown field
½ doz. children or more
Several dogs and puppies if it's the proper time of year
1 brook or stream
Pebbles

> Into the field pour children and dogs. Pour brook over the pebbles until slightly frothy. Mix well. When children are nicely brown, cool in warm tub. When dry, serve with buttermilk and fresh baked bread.

Whereas the recipe may not really have the basic four, it surely has the basics for a happy child, and helps the School Nurse in advising parents for the greatest of all nutrients — Tender Loving Care.

AN UNUSUAL BREAKFAST PROJECT*

Beryl Wauson, R.N.
Long Beach Unified School District, California

The teacher of a class of nine to eleven-year-old emotionally-handicapped boys approached me shortly after the opening of the semester with a familiar problem. Too many of his boys were coming to school breakfast-less. Added to the already myriad home and school-based problems of these boys, inadequate nutrition was a real obstacle to achieving the goals of the Special Education program.

"What can you suggest?" he asked. "The usual exhortation to 'eat a good breakfast' is going to fall flat. Some of these boys are responsible for getting themselves ready for school each morning — the mother has already gone to work, or doesn't get up that early! Some of them stop at the corner for a 'coke' on the way to school; others come without that much nourishment."

A different approach was certainly necessary, I agreed. How about making up a menu of nutritious, if somewhat unconventional breakfasts, which these boys could learn to prepare by themselves? The teacher was enthusiastic, and offered to help with simple cookery instruction to supplement any kitchen skills the boys might already possess.

We devised the following menu suggestions, and in classroom visitation I introduced to the boys the idea of becoming their own gourmet chefs. They were delighted.

Using rat study posters published by the U.S. Department of Agriculture, I discussed the vital role of nutrition to total health. Graphically convinced of the value of the right foods for good health, the boys prepared themselves in practice with the teacher, studying vocabulary and cooking skills.

With a cover letter, we explained to parents our "campaign" to introduce nutritional concepts to students, asked support in supplying the ingredients with which the boys could practice food preparation, and supplied each parent with our menu.

Success? We think so! The boys enthusiastically reported each culinary success. With frequent reminders from the teacher, they were encouraged to make breakfast-preparing a regular routine; not just once-in-the-kitchen for fun. Our breakfasts may have been unorthodox, and not even completely acceptable nutritionally, but we felt they had given our boys a chance at skill-development and a sense of accomplishment, as well as nutritional improvement.

UNUSUAL BREAKFASTS

Try one of these each day to make your breakfast lively!

FRUIT

Banana Drizzle
: Slice a peeled banana into a dish, drizzle fortified chocolate over it, sprinkle with your favorite dry cereal.

Apple Annies
: Quarter a washed apple, remove core, sprinkle each section with sugar and cinnamon. Eat them with your fingers.

Banana Blast
: Slice a peeled banana into a dish, squeeze juice of an orange over it. Sprinkle with coconut and miniature marshmallows. Be sure to brush your teeth afterward!

EGGS

Egg In a Pocket
: Cut a diamond shape out of a slice of sandwich bread. Place in buttered frying pan. Break an egg into the "pocket" and fry gently until done. Toast the cut-out section beside it in the pan.

Hamburger Scramble
: Fry a portion of hamburger until done, stirring it. Pour a beaten egg over it after draining off extra grease. Stir it gently until egg is cooked. Scoop out center of a heated hamburger bun, pile the meat and egg in the bun, cover it with catsup if you wish.

3 Men on a Raft

Slice hard-cooked egg, weiner slices or lunch meat, and cheese cubes into cream sauce (buy it in the can). Heat and serve on toast.

Quickwich

Fry lengthwise-sliced wiener until warm, place on buttered toast. Cover with hard-cooked egg slices. Cover with another slice of toast, or eat open face.

How to hard-cook an egg: Place it gently in enough boiling water to cover the egg. Turn the fire low, and simmer for 10 minutes. Pour off hot water, cover the egg with cold water, let stand a few minutes to cool.

MEAT

Tickle Taco

Roll up wiener and grated cheese in a tortilla, stick a toothpick through it to hold together, heat in oven for 5 - 8 minutes on a foil plate.

Submarine Taco (for sea-food lovers)

Drain a can of tuna, mix a little tuna with chopped hard-cooked egg and grated cheese. Stuff into a taco shell, heat in oven 3 - 5 minutes in a foil pan.

*DSN thanks Mrs. Wauson for this special project.

UNIT ON NUTRITION EDUCATION

RATIONALE: Our country provides an excess of food to its population; so much so, that obesity is a major concern and foods and beverages are advertised on the basis of low-calorie content. As a *nation* we eat well, but maintaining adequate nutrition is a major health problem because as *individuals* we do not!

Without a definite program of nutrition education started at the beginning of their school life, children are apt to confine their food choices to favorite foods. Likewise, they cannot project benefits into the future, and have no concern or appreciation for what the future will bring if they fail to eat properly **now.** Nutrition education should be stressed to boys as well as to girls. Dietary and reducing fads thrive upon inadequate public knowledge and faulty practices.

The school's major nutritional concern is in the promotion of sound dietary habits. The challenge is to break the traditional boredom of memorizing nutrients and food groups and move into the field of stimulating nutritionally-grounded experiences. Eating is essential for life!

BASIC CONCEPT: Optimal growth is dependent on personal health practices and wise decisions.

SUGGESTED PUPIL OUTCOMES:

- Relates good nutrition, adequate sleep and physical activity to his own growth and development.
- Understands the basic digestive process and how it relates to growth.
- Plans and understands the preparation of nutritious meals and snacks.
- Broadens the variety of food eaten and enjoyed by himself and others.
- Realizes the importance of modern day methods for handling and preserving foods.
- Is familiar with the resources available to provide food for himself and others.
- Critically evaluates facts and beliefs about foods.
- Discovers how behavior while eating can influence body processes in both a negative and positive manner.
- Discovers the cause, correction and prevention of certain digestive disorders, deficiencies, and diseases.
- Recognizes the growing problems of obesity at all age levels.
- Understands and can apply the modifications of diet that are necessary depending on the age and the individual.

UNIT ON NUTRITION EDUCATION (K-12)

GRADES K - 3

CONCEPTS	SUGGESTED PUPIL ACTIVITIES
1. All living things need food in order to grow.	Bring and discuss pictures of where people eat; home, school, picnics, parties.
2. Growing regularly is a sign of health.	Keep height and weight charts for individual comparison at 3-month intervals. Keep charts of self-testing physical activities (jumping, throwing, etc.) to measure individual progress. Observe eating habits of pets; note differences between large and small animals, if any.
3. Food is good.	Discuss lunches or lunch menus: a) what foods did they eat today that the cow gave? b) did they have any foods that grew underground? c) did they have any foods that grew on a tree, on a vine? Construct a food train made from cartons composed of an engine and four cars. Each car should be designated as one of the basic four food groups. Make models of wide variety of foods and place in appropriate car. Make a chart of United Nations countries. Illustrate special foods of each. Show the foods served in the school lunchroom which are related to other countries. Discuss traditional holiday foods (at home and in other countries).
4. Many kinds of food are available for an adequate diet.	Have a play store using stand-up pictures. Shop for foods (or stock with empty cans and boxes). Make a simple food mobile from construction paper.
5. Some foods may be better for the body than others.	Discuss: Foods good for snacks. Visit a dairy to see how milk is pasteurized. Make a chart showing the many forms milk can take (ice cream, cottage cheese, etc.).
6. Certain behavior while eating is important to enjoying and getting the most out of your meals.	Demonstrate proper use of napkin at table. Discuss small bites, eating slowly, elbows on table, cheerful conversation, use of utensils. Draw up list of good eating habits for bulletin board display.

7. Food is kept safe to eat by improved processing methods	Display the different ways you can buy food at the store. (Students may bring in empty cans, jars, boxes, etc.) Discuss the nutritional value of raw and cooked vegetables. Why do we cook foods? Cook foods varying lengths of time and observe both the food and the water each time.

NUTRITION EDUCATION UNIT

GRADES 4 - 6

CONCEPTS	SUGGESTED PUPIL ACTIVITIES
1. Work efficiency depends upon adequate food intake.	List and discuss the foods they ate for breakfast this morning. Make a bulletin board display of reasons why we eat (growth, energy, feel better, etc.).
2. Our selection of food depends upon many different factors.	Have blindfolded tasting test. Do tastes affect what we select to eat? (Use celery, apple, carrot, etc. to determine sweet, sour.) Where can you taste sweet, sour, etc.? Have a committee check plate waste for a week to determine what foods are not eaten in the lunchroom from both school served and home packed lunches. Discuss why these foods were not eaten; discuss how we learn to like foods.
3. Every food has a story.	Divide class into "try out" committees for new, different or unusual foods. (use help of mothers to plan — PTA) Write about your favorite food. (Try to make it sound so tasty others will want to try it. Bring recipe to class for others to try. Tell its history and any related customs.) Discuss your favorite food at birthdays, Christmas, Thanksgiving, etc. What do children in other lands eat on their holidays? Plan a Spanish menu, Italian menu, French menu, etc.
4. All nutrients needed for growth are available through foods.	List foods you dislike and find substitute foods supplying same nutritional value. Demonstrate how different foods can be tested for their content. (6th grade) • protein — burn food in a direct flame from a Bunsen burner. Foods high in protein will exhibit a characteristic odor. (gelatin will burn without too many other conflicting odors.) • starch — soften, crush and dissolve or soak the food in water. Place the water and food in a test tube and

add a drop one per cent iodine solution. If it turns blue, starch is present.

- fats — place the food on a piece of typing paper. Press it against the paper so juices from the food penetrate the paper. Remove the food and place the paper on a radiator to heat. Remove after all the water has evaporated. Fatty foods will leave grease spots on paper.
- minerals — burn the food on an asbestos or metal plate. Foods high in minerals such as dried milk, beans, peas, and egg yolk will leave a gray ash consisting of minerals. Non-mineral foods such as sugar will leave only black carbon.
- water — expose fruits, leafy vegetables and other food to the air and sunshine. Allow them to remain exposed until they become shriveled and dry. They have lost their water. The food may be weighed before and after dehydration to determine the amount of water lost.

5. Some foods do more for us than others.

Discuss food fads and the problem of getting reliable information. Discuss how to tell the difference between food facts and misinformation.

Choose a food such as milk or eggs or a favorite vegetable. Make a little book chart showing the many ways to serve this food, how the food aids in growth and development, etc.

Plan a "Food of the Week" campaign to introduce new foods or those seldom eaten.

Analyze some magazine advertisements about different foods.

Develop a class or individual recipe booklet which can be added to from time to time. Use recipes they've tried from their own camping or cooking experience or refer to Scout or Junior Cook Books.

6. One's daily diet should be planned each day to include foods which produce sufficient amounts of nutrients and calories.

Make a daily chart of what you've eaten.

a) Discuss implications of growing problem of obesity.
b) Relate obesity to caloric intake and output. Determine how our body uses energy.

7. One's feelings and emotions affect digestion of food.

Discuss whether feelings of happiness or sadness influence digestion.

Discuss fear, hate and anger relating to digestion.

Discuss rest and relaxation in relation to digestion. Importance of moderate activities immediately after meals.

Discuss effects of a quick or hurried meal.

8. Many steps are being taken to solve world food problems.	Investigate current world food problems. Plan a panel discussion on some solutions to these problems. Discuss organizations involved in world food problems. Food and Agriculture Organization (FAO), World Health Organization (WHO), International Children's Emergency Fund (ICEF).

NUTRITION EDUCATION UNIT

GRADES 7 - 9

CONCEPTS	SUGGESTED PUPIL ACTIVITIES
1. The foods you eat today have a far-reaching effect on your body.	List factors which will influence your weight throughout life. Select several for individual reports (i.e. fashions, height-weight charts, physical activity, genetic factors, peer eating fads, eating habits, psychological factors, etc.). Survey of breakfasts among all students; the number who are eating breakfast as well as the nature of the foods consumed.
2. Food has important effects on our bodies.	Discuss reasons why we eat. Examine cells of different plants under a microscope. Discuss cell division as related to human body.
3. Nutrients are the nourishing substances found in foods.	Divide class into "nutrient groups"; report on discovery of nutrient, function, sources. (Emphasize experimentation and visual aids in delivery of report, e.g. 'soak a small uncooked bone in vinegar for three days. The mineral matter will dissolve and the bone will lose its strength and firmness so that it can be easily bent. This experiment demonstrates the presence of minerals especially calcium and phosphorus in bones. It points up the importance of minerals in the diet.)
4. Some foods do more for us than others.	Display representative examples of food fads and fallacies. Do research to discover why these foods are considered to be such. Collect magazine food advertisements by apparent food quacks and evaluate content.
5. Our food choices need to be distributed wisely among meals and snacks.	Discuss reasons for skipping breakfast — (not enough time, don't feel like it, I'm dieting, etc.). Investigate research done by nutritionists on value of eating breakfast. What effect does eating breakfast have on you? (Refer to "Breakfast Source Book" Cereal Institute, Inc. Publication.) — "Breakfast Around the World." Report on what your body does with extra nutrients it does not need. How should this influence the distribution of your food during the day.

6. Some foods are better than others for snacking.	List common snack foods and discuss in terms of caloric value and nutritional value. Conduct a one to three day survey of snack foods eaten by students.
7. Intelligent choices need to be made about foods and food fads.	Collect newspaper clippings and advertisements about crash diets, reducing fads, reducing pills and quackery. Discuss and analyze weight reducing procedures. Evaluate liquid diets, baby-food diets and other teen-age fad diets in terms of nutritional value.
8. Storage and processing practices have changed the variety, palatability and nutritional values of food.	Select a prepared problem and develop reports. Typical examples might be: chicken salad is left from lunch on a hot day. What would you do with it and why? you can select pasteurized or raw milk. Which would you select and why? you have your choice of freezing or canning specific foods. Which would you do and why? a friend tells you not to eat eggs or pork. (salmonella, trichinosis) Would you take her advice? you read that most vitamins are lost in everyday foods. Investigate the accuracy of such a statement of evaluate need of vitamin supplements. a food supplement salesman wants your family to sign for an extended period to use his product. What should your family do and why? your community sells fruits that have been sprayed. Should you eat them? Investigate all of these problems by interviewing knowledgeable people, visiting food processing plants, talking to individuals at Better Business Bureau, reading, etc. Discuss the responsibility of students who work in the lunch program. Investigate why the food and drug laws were passed. Investigate differences in foods taken on camping trips now and 50 years ago.
9. Every person is responsible for making meal times pleasant and harmonious.	Observe and discuss manners at mealtime. Discuss why certain actions have become accepted as appropriate while others have not. Develop a skit involving a family meal showing the importance of such things as pleasant conversation,

	good table manners, sharing preparation and cleaning up, etc.
	Organize with help of school dietitian a committee to improve the attractiveness of the cafeteria through the use of posters, table settings, flowers, etc.
10. Certain diseases are caused by lack of vitamins.	Prepare committee reports on the discovery of the more common vitamins and the effect on a person if these vitamins are missing or lacking.
	Prepare bulletin boards depicting lack of vitamin — disease.
11. Weight can affect your health.	Discuss causes of obesity (overeating, poor eating habits, glandular disturbances, emotional disturbances).
	Discuss effect of family eating habits on obesity
	Evaluate through discussion the disadvantages and dangers of obesity. (fatigue, discomfort, play and exercise require greater effort, limited group activity, personality difficulties, job handicaps, effect on internal organs, heart, arteries, kidneys)
	Discuss causes of underweight (worry, disease, fatigue, heredity, poor eating habits).
	Evaluate through discussion the dangers of underweight (reduced health, vitality, malnutrition).
	Discuss lack of proper foods and the effect on the learning process.
	Invite personnel involved in nutrition research to discuss weight reduction with class.
	Prepare articles on weight reduction, etc. for school newspaper.
	Participate in panel discussion on "Diet and its relationship to weight control."
12. Food is an integral part of cultural patterns.	Bring a list of traditional or regional foods eaten by your family when celebrating special occasions. Emphasize factors influencing choices; climate, region, nationality, traditional festivities, storage available, seasonings, preparation.
	Discuss possible origin of three meals a day.
	Prepare bulletin board display, show-case exhibits, or dioramas, food models, pictures or paper-mache models showing certain regional meals, dishes, etc.
	With parent-teacher association members, plan, prepare, and serve a meal that contains foods from a foreign country.

NUTRITION EDUCATION UNIT

GRADES 10 - 12

CONCEPTS	SUGGESTED PUPIL ACTIVITIES
1. Nutrition can affect how you look.	Discuss what one needs to know to meet the nutritional needs of each family member. What factors change these needs? (age, allergies, activities).
	Discuss the causes of acne and how diet might aid the correction of it.
	Investigate flouridation in your local drinking water. Set up a panel discussion to evaluate the pros and cons.
	Tabulate the percentage of students who have had dental work done. Determine what effect nutritional habits may have had in these percentages.
2. Your personality can be influenced by how you eat.	Debate the effect of diet on personality characteristics such as cheerfulness, self-confidence, poise, emotional stability against such things as losing sense of humor, being morose, apathetic, etc.
	Investigate the effects of caffeine and other similar stimulants on your system and determine if there is any effect on your physical or mental efficiency.
3. Growth and development can be affected by nutrition and its interplay with heredity and environment.	List different family eating habits (2 big cooked meals a day, eating on "the run", little meat, no breakfasts, mid-morning and afternoon snacks, many desserts, etc.) Show how some of these habits may affect growth and development.
	Discuss the inheritance of family tendencies in size.
	Investigate the differences in diet between warm climates and cold climates.
4. Nutrients are needed in ample amounts.	Discuss the recommended daily dietary allowances.
	Have students rate weekly diets.
5. The individual must consider many things in making his own food selection.	Discuss the factors which influence adolescent eating habits.
	Determine costs of food by:
	planning a week's menu on the amount of money welfare or retired people spend on food.
	listing inexpensive substitutes for meats or inexpensive dishes that might help keep food costs down.
	check U.S.D.A. commodities in use in the school lunch program and U.S.D.A. commodities available to welfare recipients . . . check food value.

	discuss food stamp program for welfare recipients. determine cost of school lunch. Compare school lunch, home packed lunch, drive-in lunch for cost, nutritional value, calories, satisfaction.
6. All persons throughout life have need for the same nutrients but in varying amounts.	Arrange committees to research and report on the relationship of nutrition to the following: pre-natal and post-natal dietary needs care of the diabetic treatment of TB patient therapy of alcoholic treatment of cardiac cases nutrition and mental health child's diet and nutrition teenager's diet and nutrition adult nutrition athlete's nutrition (Prepare display — bulletin board chart to depict special diets.) Discuss influence of nutrition on embryological development and child growth. Compare opinions and customs on breast feeding.
7. Consumers look for several qualities in fresh and processed food.	Compile list of factors that influence consumers in their food purchases. Collect food advertisements and evaluate them in terms of nutrition and cost. Have each student do a week's food shopping (on paper) for a family of 4 or 5 on a predetermined, minimal amount of money. (This can be an excellent evaluating device if used both at beginning of unit and near the end to see if pupils food selection has improved.)
8. Intelligent choices need to be made about foods, food fads and sensational claims. Foods may contain substances that are harmful to our bodies.	Investigate the ways that certain diseases are transported by foods. Discuss methods of discouraging this kind of transference (typhoid, dysentery, trichinosis, etc.). Evaluate quackery in nutrition. Possible committee reports should include the following: prepare and administer a food fad and fallacy test. Give test to a sample group in your community. analyze nutrients of several "health foods" and compare to "ordinary foods" — discuss food additives. Bring in samples of ads for food supplements, nutrition aids and digestive remedies. Evaluate these in the light of their scientific or pseudo-scientific approaches.

	Discuss and evaluate common misconceptions about certain foods (brain-foods, raw foods, nerve foods, natural foods, etc.).
	Report on saturated fats and cholesterol; point out opinions on relationship to disease. Check food labels to see which products state they have poly-unsaturates.
9. Some prevalent physiological conditions can be prevented and treated by good nutrition.	Have class collect information on all types of reducing diets: starvation diets, mechanical means (vibrators) chemical (drugs), special foods, exercises, etc. Report on each and determine: cost, scientific basis for claims, danger to health, long term effect and successfulness. Make graphs showing relationship of heart disease, diabetes, high blood pressure, etc. to overweight.
10. Quantity of food intake is a growing health problem.	Discuss basal metabolism and its influence on how the body utilizes nutrients. Compare and evaluate means of losing weight. Determine what effect overweight and obesity can have on an individual's health. Investigate and discuss the significance of malnutrition in the world today.

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